

REMARKS

Claims 1-22 are pending in this application. Claims 16-22 have been withdrawn from consideration as being directed to a non-elected invention. Claims 1-5 and 10-13 stand rejected under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over U.S. Patent Application Publication No. 2001/0049038 to Dickman; claims 1-5 and 10-12 stand rejected under 35 USC §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over U.S. Patent Application Publication No. 2002/0082785 to Jones et al.; claims 6-9 and 14-15 stand rejected under 35 USC §103(a) as being unpatentable over Dickman; and claims 6-9 and 14-15 stand rejected under 35 USC §103(a) as being unpatentable over Jones et al. The drawings have been objected to because figure 1 should be designated as Prior Art and because the description of figure 3 in at least paragraph [0027] is confusing.

In view of the preceding amendments and the following remarks, these rejections and objection are traversed, and reconsideration of this application is respectfully requested.

Applicant's are submitting herewith a replacement sheet for figures 1 and 3 that identify figure 1 as prior art. Further, the specification has been amended above in paragraph [0027] to replace lines "64 and 66" with lines "66 and 68" to correct a typographical error. In view of the replacement drawing sheet and the amendments to the specification, it is respectfully requested that the objection to the drawings be withdrawn.

Independent claims 1 and 13 claim a fuel cell distribution system that includes a fuel cell controller. The fuel cell controller operates a load following algorithm that controls the output power of a fuel cell based on changes to the load on the fuel cell. The load following algorithm provides a command signal that is applied to the fuel cell that sets the available output power from the fuel cell, and also defines a maximum current draw signal that is applied to a power condition module that defines a maximum current that can be drawn from the fuel cell. Therefore, the controller prevents power from being drawn from the fuel cell above a certain power and current level.

United States Patent Application Publication 2001/0049038 to Dickman discloses a fuel cell system including a plurality of fuel cell stacks 76 that provide partial and/or total redundancy. Some of the embodiments of the fuel cell system include a power management module 81 through which electric power from the fuel cell stacks 76 is delivered to a load 80. Paragraph [0048] provides a more or less detailed discussion of the power management module 81. Some embodiments of Dickman disclose a fuel cell control system 120 including a controller 122. Applicant cannot find any specific teaching in Dickman of a fuel cell sensor that measures a draw current from a fuel cell and provides a fuel cell signal indicative of the measured draw current, although such fuel cell sensors are well known in the art.

Applicant respectfully submits that Dickman does not teach or suggest a fuel cell controller that operates a load following algorithm that provides a command signal to a fuel cell that sets the available outpower from the fuel cell

and defines a maximum current draw applied to a power conditioning module that defines a maximum current that can be drawn from the fuel cell.

The Examiner has directed Applicant's attention to the Abstract and paragraphs [0046], [0048], [0049], [0057] and [0064] of Dickman as showing a fuel cell controller as claimed. Paragraph [0057] does talk about the controller 122 of figure 10. The Examiner has also directed Applicant's attention to paragraphs [0034], [0035], [0040] and [0041] as teaching that the controller sets the available output power for the fuel cell and defines the maximum current drawn from the fuel cell through a power conditioning module as claimed. Applicant has carefully reviewed these paragraphs in Dickman and does not find any discussion in any of these paragraphs of either of the power management module 81 or the controller 122. Applicant respectfully submits that Dickman does not teach a fuel cell controller that defines a command signal that sets the available output power from the fuel cell and defines a maximum current draw signal to find a maximum current draw from a fuel cell. Applicant respectfully requests that the Examiner particularly identify where these claimed features can be found in Dickman if this rejection is maintained. Therefore, Applicant submits that Dickman cannot anticipate or make obvious independent claims 1 and 13.

United States Patent Applicant Publication No. 2002/0082785 to Jones et al. discloses a fuel cell system 10 that includes a technique for responding to up and down transients of the power output from a fuel cell stack. The Jones et al. fuel cell system 10 includes a controller 60 and includes a voltage regulator 30 and an inverter 33 between a fuel cell stack 20 and a system load 50. Figure 3 is

a graph showing the output power from the fuel cell stack 20. Paragraph [0030] talks about figure 3 and states that the graph shows a hysteresis zone 121 having an upper threshold 121a and a lower threshold 121b. As long as the power drawn by the load 50 is within the zone 121, the controller 60 determines that a transient has not occurred. If the power drawn by load 50 exceeds one of the thresholds 121a or 121b, the controller 60 recognizes that a transient has occurred. The main thrust of the Jones et al. disclosure has to do with providing a delay in response to an up or down transient so that the fuel and air provided to the fuel cell stack 20 is not immediately changed so that the system does not respond to temporary up or down transients, see paragraph [0032]. If a delay interval passes, then the controller 60 determines that additional or less fuel and air should be provided to accommodate the transient.

Applicant submits that the algorithm in Jones et al. that controls the system response to up and down transients can be considered some type of a load following algorithm. However, the Jones et al. process for responding to an up or down transient is different than that claimed by Applicants for their load following algorithm. Applicant's process does not necessarily provide a delay in response for a transit, and addresses the transients in a different manner. Applicant submits that all fuel cell systems have some type of process for responding to up and down transients and those processes can be very different.

Applicant respectfully submits that the Jones et al. process does not provide a command signal applied to a fuel cell that sets the available output power from the fuel cell, and does not define a maximum current draw signal

applied to a power conditioning module that defines a maximum current that can be drawn from the fuel cell. The controller 60 in Jones et al. is not even coupled to the voltage regulator 30 or the inverter 33. Thus, these or any other devices in the Jones et al. system that can be considered a power conditioning module do not receive a signal defining a maximum current draw from the controller.

The Examiner has directed Applicant's attention to paragraphs [0029] and [0038] as teaching Applicant's claimed load following algorithm. Applicant has carefully reviewed these paragraphs in Jones et al. and can find no teaching therein that the controller 60 provides a command signal that is sent to the fuel cell stack 20 to set the available output power from the fuel cell stack 20 and a maximum current draw signal that defines a maximum current that can be drawn from the fuel cell stack 20 that is sent to a power conditioning module that conditions the output from the fuel cell stack to the load on the stack. Applicant respectfully requests that the Examiner specifically identify these features of the claimed invention if this rejection is maintained. Clearly, Jones et al. does not teach or suggest the detailed operation of the load following algorithm in independent claim 13.

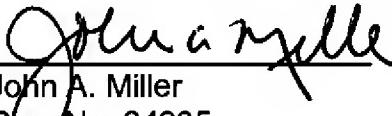
The Examiner has rejected dependent claims 14 and 15 under 103(a) as being unpatentable over Jones et al. However, independent claim 13 has not been rejected in view of Jones et al. Therefore Applicant submits that this rejection is improper.

In view of the preceding remarks, it is respectfully requested that the section 102 and 103 rejections be withdrawn.

It is now believed that this application is in condition for allowance. If the Examiner believes that personal contact with Applicant's representative would expedite prosecution of this application, he is invited to call the undersigned at his convenience.

Respectfully submitted,

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